

What is claimed is:

5 1. A method of manufacturing an instant photography film unit which comprises a mask sheet having an image frame and two sheets, one of which has a photosensitive layer, superposed and bonded to each other, and a pod storing a developing solution and disposed on the sheets in a predetermined position, the arrangement being such that the developing solution supplied from the pod extends between said two sheets to form an image, said method comprising the steps of:

10 bonding said mask sheet and said two sheets, at least one of which comprises a continuous member, to each other in a laminated state;

15 cutting said continuous member to a predetermined length for thereby producing a self-developing instant photography film unit;

automatically stacking a predetermined number of said instant photography film units; and

20 automatically housing the stacked instant photography film units into a film pack.

2. A method according to claim 1, further comprising the steps of:

25 supplying said mask sheet and said two sheets as first, second, and third continuous members, respectively;

bonding said first, second, and third continuous mem-

bers to each other; and

thereafter, cutting the bonded first, second, and third continuous members together.

5 3. A method according to claim 1, further comprising the step of:

beveling corners of said instant photography film unit.

10 4. A method according to claim 1, wherein said mask sheet has foldable thin portions disposed on opposite marginal side edges of said image frame and having a predetermined depth across said mask sheet.

15 5. A method according to claim 1, wherein said mask sheet has a deformed area disposed at said trap and serving as an air passage.

20 6. A method of manufacturing an instant photography film unit which comprises a mask sheet having an image frame and two sheets, one of which has a photosensitive layer, superposed and bonded to each other, and a pod storing a developing solution and disposed on the sheets in a predetermined position, the arrangement being such that the developing solution supplied from the pod extends between said two sheets to form an image, said method comprising the steps of:

25 bonding said mask sheet and said two sheets, at least

one of which comprises a continuous member, to each other in a laminated state;

cutting said continuous member to a predetermined length for thereby producing a self-developing instant photography film unit; and

producing at least one free loop in a feed region required to position said continuous member for controlling feeding of said continuous member.

7. A method according to claim 6, further comprising the steps of:

feeding said continuous member a predetermined pitch interval at a time with first feed means upstream of said free loop; and

feeding said continuous member a predetermined pitch interval at a time with second feed means downstream of said free loop.

8. A method according to claim 7, further comprising the steps of:

feeding said continuous member a predetermined number of pitches at a time with said first feed means; and

detecting a positioned area of said continuous member and feeding said continuous member a predetermined number of pitches at a time with said second feed means based on the detected positioned area, downstream of said free loop.

5 9. A method according to claim 6, wherein said instant
photography film unit has an outer dimension in a direction
perpendicular to the longitudinal direction in which said
instant photography film unit extends, said outer dimension
being used as a unit pitch for feeding said continuous mem-
ber, and wherein said continuous member is fed a first num-
ber of pitches at a time in said step of cutting said con-
tinuous member and fed a second number of pitches, different
from said first number of pitches, at a time upstream of
10 said step of cutting said continuous member across said free
loop.

15 10. A method according to claim 6, further comprising
the steps of:

supplying said mask sheet and said two sheets as first,
second, and third continuous members, respectively;

bonding said first, second, and third continuous mem-
bers to each other; and

20 thereafter, cutting the bonded first, second, and third
continuous members together.

11. A method according to claim 6, further comprising
the step of:

beveling corners of said instant photography film unit.

25 12. A method according to claim 6, wherein said mask
sheet has foldable thin portions disposed on opposite margi-

nal side edges of said image frame and having a predetermined depth across said mask sheet.

5 13. A method according to claim 6, wherein said mask sheet has a deformed area disposed at said trap and serving as an air passage.

10 14. A method of manufacturing an instant photography film unit which comprises a mask sheet having an image frame and two sheets, one of which has a photosensitive layer, superposed and bonded to each other, and a pod storing a developing solution and disposed on the sheets in a predetermined position, the arrangement being such that the developing solution supplied from the pod extends between said two sheets to form an image, said method comprising the steps of:

15 bonding said mask sheet and said two sheets, at least one of which comprises a continuous member, to each other in a laminated state;

20 cutting said continuous member to a predetermined length for thereby producing a self-developing instant photography film unit; and

25 supplying at least one of a plurality of pods storing a developing solution and a trap for trapping an excessive developing solution to a marginal side edge of said image frame when said continuous member is stopped.

15. A method according to claim 14, further comprising the steps of:

supplying said mask sheet and said two sheets as first, second, and third continuous members, respectively;

5 bonding said first, second, and third continuous members to each other; and

thereafter, cutting the bonded first, second, and third continuous members together.

10 16. A method according to claim 14, further comprising the step of:

beveling corners of said instant photography film unit.

15 17. A method according to claim 14, wherein said mask sheet has foldable thin portions disposed on opposite marginal side edges of said image frame and having a predetermined depth across said mask sheet.

20 18. A method according to claim 14, wherein said mask sheet has a deformed area disposed at said trap and serving as an air passage.

25 19. A method of manufacturing an instant photography film unit which comprises a mask sheet having an image frame and two sheets, one of which has a photosensitive layer, superposed and bonded to each other, and a pod storing a developing solution and disposed on the sheets in a predeter-

mined position, the arrangement being such that the developing solution supplied from the pod extends between said two sheets to form an image, said method comprising the steps of:

5 bonding a first continuous member for forming said mask sheet and second and third continuous members for forming said two sheets, respectively, to each other in a laminated state;

10 cutting said first, second, and third continuous members to a predetermined length for thereby producing a self-developing instant photography film unit, said instant photography film unit has an outer dimension in a direction perpendicular to the longitudinal direction in which said instant photography film unit extends, said outer dimension being used as a unit pitch for feeding said continuous member; and

15 feeding said first, second, and third continuous members a plurality of pitches at a time at least in said step of bonding said first, second, and third continuous members to each other.

20 20. A method according to claim 19, further comprising the steps of:

25 feeding said first, second, and third continuous members one pitch at a time in said step of cutting said first, second, and third continuous members; and

 synchronously controlling said step of feeding said

first, second, and third continuous members a plurality of pitches at a time at least in said step of bonding said first, second, and third continuous members to each other, and said step of feeding said first, second, and third continuous members one pitch at a time in said step of cutting said first, second, and third continuous members.

21. A method according to claim 19, wherein said instant photography film unit has outer dimensions equal to the outer dimensions of an ID card specified according to ISO 7810 or JIS X6301, said unit pitch comprising the length of a shorter side of said instant photography film unit which is represented by one of said outer dimensions.

22. A method of manufacturing an instant photography film unit which comprises a mask sheet having an image frame and two sheets, one of which has a photosensitive layer, superposed and bonded to each other, and a pod storing a developing solution and disposed on the sheets in a predetermined position, the arrangement being such that the developing solution supplied from the pod extends between said two sheets to form an image, said method comprising the steps of:

preparing a first continuous member for forming said mask sheet and second and third continuous members for forming said two sheets, respectively;

bonding said first and second continuous members to

each other, and thereafter bonding spacers to opposite marginal side edges of said image frame of said first continuous member which extend perpendicularly to the feeding direction in which said first, second, and third continuous members are fed;

superposing and bonding said third continuous member to said first and second continuous members to each other with said spacers interposed therebetween;

folding back and bonding opposite marginal side edges of said first continuous member to said third continuous member; and

cutting said first, second, and third continuous members together.

23. A method according to claim 22, further comprising the steps of:

attaching a pod storing a developing solution and trap for trapping an excessive developing solution respectively to opposite side marginal edges of said first continuous member which extend in said feeding direction;

punching said image frame out of said first continuous member; and

thereafter, bonding said first and second continuous members to each other.

24. A method according to claim 22, wherein said instant photography film unit has an outer dimension in a di-

rection perpendicular to the longitudinal direction in which said instant photography film unit extends, said outer dimension being used as a unit pitch for feeding said continuous member, and wherein said instant photography film unit has outer dimensions equal to the outer dimensions of an ID card specified according to ISO 7810 or JIS X6301, said unit pitch comprising the length of a shorter side of said instant photography film unit which is represented by one of said outer dimensions.

25. An apparatus for manufacturing an instant photography film unit which comprises a mask sheet having an image frame and two sheets, one of which has a photosensitive layer, superposed and bonded to each other, and a pod storing a developing solution and disposed on the sheets in a predetermined position, the arrangement being such that the developing solution supplied from the pod extends between said two sheets to form an image, said apparatus comprising:

a component supply station for supplying said mask sheet and said two sheets;

a bonding station for bonding said mask sheet and said two sheets in a laminated state, with at least one of said mask sheet and said two sheets comprising a continuous member;

a cutting station for cutting said continuous member to a predetermined length for thereby producing a self-developing instant photography film unit;

a stacking station for automatically stacking a predetermined number of said instant photography film units; and

a packaging station for automatically housing the stacked instant photography film units into a film pack.

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26. An apparatus according to claim 25, wherein said component supply station comprises means for supplying said mask sheet and said two sheets as first through third continuous members, the arrangement being such that said first through third continuous members are cut together after being bonded to each other.

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27. An apparatus according to claim 25, further comprising:

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a beveling station for beveling corners of said instant photography film unit.

28. An apparatus according to claim 25, further comprising:

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a fold forming station for forming foldable thin portions on opposite marginal side edges of said image frame of said mask sheet, said foldable thin portions having a predetermined depth across said mask sheet.

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29. An apparatus according to claim 25, further comprising:

an air hold forming station for forming a deformed area

at said trap and serving as an air passage.

5 30. An apparatus for manufacturing an instant photography film unit which comprises a mask sheet having an image frame and two sheets, one of which has a photosensitive layer, superposed and bonded to each other, and a pod storing a developing solution and disposed on the sheets in a predetermined position, the arrangement being such that the developing solution supplied from the pod extends between
10 said two sheets to form an image, said apparatus comprising:

a component supply station for supplying said mask sheet and said two sheets;

15 a bonding station for bonding said mask sheet and said two sheets in a laminated state, with at least one of said mask sheet and said two sheets comprising a continuous member;

a cutting station for cutting said continuous member to a predetermined length for thereby producing a self-developing instant photography film unit; and

20 at least one free loop disposed in a feed region required to position said continuous member.

31. An apparatus according to claim 30, further comprising:

25 first feed means disposed upstream of said free loop for feeding said continuous member a predetermined pitch interval at a time; and

second feed means disposed downstream of said free loop for feeding said continuous member a predetermined pitch interval at a time.

5 32. An apparatus according to claim 31, further comprising:

10 detecting means disposed downstream of said free loop for detecting a positioned area of said continuous member and feeding said continuous member a predetermined number of pitches at a time with said second feed means based on the detected positioned area.

15 33. An apparatus according to claim 30, wherein said component supply station comprises means for supplying said mask sheet and said two sheets as first through third continuous members, the arrangement being such that said first through third continuous members are cut together after being bonded to each other.

20 34. An apparatus according to claim 30, further comprising:

 a beveling station for beveling corners of said instant photography film unit.

25 35. An apparatus according to claim 30, further comprising:

 a fold forming station for forming foldable thin por-

tions on opposite marginal side edges of said image frame of said mask sheet, said foldable thin portions having a predetermined depth across said mask sheet.

5 36. An apparatus according to claim 30, further comprising:

an air hold forming station for forming a deformed area at said trap and serving as an air passage.

10 37. An apparatus for manufacturing an instant photography film unit which comprises a mask sheet having an image frame and two sheets, one of which has a photosensitive layer, superposed and bonded to each other, and a pod storing a developing solution and disposed on the sheets in a predetermined position, the arrangement being such that the developing solution supplied from the pod extends between
15 said two sheets to form an image, said apparatus comprising:

a component supply station for supplying said mask sheet and said two sheets;

20 a bonding station for bonding said mask sheet and said two sheets in a laminated state, with at least one of said mask sheet and said two sheets comprising a continuous member;

25 a cutting station for cutting said continuous member to a predetermined length for thereby producing a self-developing instant photography film unit; and

a component supply station for simultaneously supplying

at least one of a plurality of pods storing a developing solution and a trap for trapping an excessive developing solution to a marginal side edge of said image frame.

5 38. An apparatus according to claim 37, wherein said component supply station comprises means for supplying said mask sheet and said two sheets as first through third continuous members, the arrangement being such that said first through third continuous members are cut together after being bonded to each other.

10 39. An apparatus according to claim 37, further comprising:

15 a beveling station for beveling corners of said instant photography film unit.

20 40. An apparatus according to claim 37, further comprising:

25 a fold forming station for forming foldable thin portions on opposite marginal side edges of said image frame of said mask sheet, said foldable thin portions having a predetermined depth across said mask sheet.

30 41. An apparatus according to claim 37, further comprising:

 an air hold forming station for forming a deformed area at said trap and serving as an air passage.